


Instruction manual

Original instructions

 **Caution!** Prior to operating the unit, please read the owner's manual carefully, and most importantly, observe all safety rules.

Observe the maintenance guidelines closely to ensure the long service life of your equipment.

Your dealer will be glad to assist you with any questions.

EC declaration of conformity → The EC declaration of conformity on a separate piece of paper forms part of these operating instructions.

Packaging and disposal

Please keep the original packaging in order to protect the equipment against transport damage in case you ever need to ship it or transport it. If the packaging materials are no longer required then they must be disposed of properly in accordance with applicable local regulations. Cardboard packaging materials are raw materials which can be recycled or reused.

At the end of the equipment's service life, please make sure that you dispose of it properly, in accordance with the official directives and regulations that apply in your area

In the best interest of continued technological progress we reserve the right to change the design and configuration of any product without prior notice.

For that reason, no claims can be accepted with reference to text and illustrations in this manual

Type plate



a: Type designation

b: Serial number

c: Build year (08 → 2008)

Symbols

The following symbols are used in this manual and on the product:



Thoroughly read these operating instructions before undertaking any maintenance, installation and cleaning steps



Wear ear defenders and a face shield before starting the engine



Switching off the engine, stop switch on "STOP"



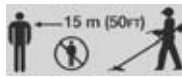
Wear protective gloves when handling and working with the equipment



Wear solid shoes, preferably safety shoes with a good tread



Danger! Failure to comply with the instructions could cause accidents with potentially **life-threatening injuries**.



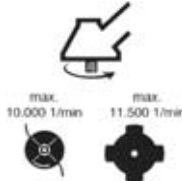
Maintain a minimum distance of 15 metres bystanders



Please note: objects may be thrown out and high



Please note: power tool may kick back on contact with a solid object



Never exceed the specified maximum speed



Never smoke near the power tool or where the equipment is refuelled!



Keep open flames away from the power tool and the fuel can



- This equipment produces exhaust fumes and
- fuel vapours are poisonous; never start or refuel in enclosed spaces



Fuel mixture: symbol above the fuel mixture tank cap



Choke flap:
Cold start position → choke lever up, towards this symbol 

Operation and warm start → choke lever down

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1. Safety regulations

1.1 Correct use / General safety instructions

The brushcutter must only be used to cut grass, reeds, weeds and wild growth at ground level. The brushcutter must not be used for any other purposes (see chapter 8.1 "Scope of Application").



Read the operating instructions carefully before placing in service and keep them in a safe place.

Use this power tool with particular caution.

Non-observance of safety instructions can lead to a risk to life. Also observe any regulations from your professional body. These operating instructions must always be available at the place of work. All individuals instructed to work with the equipment (including maintenance, care and repair), should read these instructions.

- You should request and receive instructions from the vendor on the safe operation if you are using this type of product for the first time.
- Children and young people under 18 years may not work with this power tool, with the exception of young people over 16 years of age who are being trained under supervision.
- Keep bystanders and animals away from the working area. Maintain a minimum distance of 15 m. When working near thickets, be aware that children and animals may be hidden there. Immediately stop the machine and the cutter if any person or animal comes close to the working area. The operator is responsible for any accidents or damage caused to parties or property.
- This machine may only be passed on or lent to third parties if they are familiar with the safe use of this product and with these instructions. Always supply the manual with the machine.
- Ensure you are rested and in good health when using this machine.
- Persons under the influence of alcohol or drugs, including prescription drugs, are not allowed to use this machine, as their ability to quickly react to potential danger may be impaired.
- Never alter, change or modify any safety equipment or functional assemblies on this machine.
- Only use this machine if it is in good, safe condition. Always check the machine prior to use. **Risk of accident!**
- Only use those accessories and attachments that have been supplied by the manufacturer and that are expressly approved for attachment. When using a nylon head, never replace a plastic line with a steel line. Always use the appropriate contact protection with each cutter.
- Always stop the engine and remove the spark plug cap when changing cutters to prevent unintentional starting of the engine.
- The reliability and safe operation of your machine depend on the quality of parts used with the machine. Only use original spare parts. Original spare parts are identical with genuine production parts and guarantee best quality in material, dimensions, function and safety. Original parts and accessories are available from your specialist dealer. Your dealer has been supplied with appropriate documentation to determine the correct parts. Your dealer is frequently supplied with updates about improvements to the equipment. Please note that the use of non-original parts will void your warranty.
- Always store the machine in a safe place and in such a way that it will not pose any danger. Stop the engine when the machine is not used.

Persons who disregard safety instructions, operating or maintenance instructions may be liable for any damage or consequential losses.

1.2 Working clothes

To prevent injuries, always wear suitable clothing and safety equipment when working with this power tool. This clothing should be practically oriented to the application (for example a tight fitting work suit), but should not be confining.

We recommend:

SOLO forest and countryside work jacket EN 340 Part no: 99303000 + size (2[s] - 6[xxl])

SOLO Outdoor Knee-breeches Part no: 9902095 + size

or **SOLO Outdoor dungarees** Part no: 9902094 + size

Never wear scarves, ties, jewellery or other items of clothing, which might get caught in the equipment, in brush or on branches. Safely tie back long hair (use a cap, helmet or similar).



Wear sturdy shoes with a good tread - ideally safety shoes.

We recommend: **SOLO leather forest boots** Part no: 9930510 + size (36 - 48)



Wear protective gloves with non-slip palms.

We recommend: **SOLO Fit** Part no: 9939012 + size.



Use ear defenders and/or a visor for protection against flying objects or objects caught up in the turbulence (protective goggles for example).

We recommend: **SOLO face/ear protection pack** Part no: 993901002 (one size)

1.3 Fuelling



Petrol is very light and highly flammable. Keep away from open flames and never spill fuel. Do not smoke at the operating site or at and near the refuelling site!

- Stop the engine prior to refuelling.
- Let the engine cool down before refuelling - fire risk!
- Open the tank lid slowly to allow any excess pressure in the tank to be reduced without the risk of petrol spraying out.
- Fuel may contain substances similar to solvents. Prevent products made from mineral oil coming into contact with skin and eyes. Wear protective gloves during filling with fuel. Frequently change and clean protective clothing.
- Avoid breathing in fuel vapour.
- The refuelling site should be well ventilated.
- Avoid any soil spillage of fuel or oil (protection of the environment). Use a suitable mat.
- Immediately clean any spilled fuel on the machine. Change contaminated clothing without delay.
- Firmly tighten all tank lids. This will reduce the risk of spillage from lids, which have become loose from engine vibrations.
- Check for petrol leaks. Do not start the machine or work with the machine if there is a petrol leak. Life threatening risk from burns!
- Store fuel and oil in approved and correctly labelled containers.

1.4 When transporting the equipment

- Always turn off the engine when transporting the machine.
- Never carry or transport the brushcutter with the engine running.
- Always cover the cutters with blade protectors, when transporting the equipment over longer distances.
- To prevent fuel running out and associated damages, secure the equipment against tipping over during vehicle transportation. Check the tank for leaks. It is advisable to drain the tank before transportation.
- Drain the tank before despatching the equipment.

1.5 *Preparing the equipment for starting*

Check the complete machine for operational safety.

- The stop switch should function properly.
- The throttle must have freedom of movement and return to the idle position on its own accord.
- The cutters and contact protection must be tightly secured and in perfect condition.
- Ensure the spark plug cap and the ignition cable are connected firmly. A loose connection may cause a spark, which can ignite any existing fuel:air mixture - fire hazard!

Should the check reveal any irregularities or recognisable damage (also to the frame), incorrect adjustments or reduced efficiency of the machine, do not commence work. Take the power tool to a specialised workshop and have it checked.

1.6 *Starting*



- Start the machine no less than 3 metres from the refuelling location. Never start the machine in an enclosed space.
- Ensure that you are standing firmly on the ground when starting. Always start on even ground, with a firm grip on the power tool.
- Only one person at the time may operate this power tool - no other people should be within a radius of 15 m - even when starting.
- Continue with the starting procedure as described in section 7. "Starting/Stopping the engine".

1.7 *Maintenance and repairs*

Regularly service this machine. Only carry out those maintenance jobs and repairs, which are described in this manual. A specialised service centre will carry out all other jobs.

- Do not maintain, repair or store the machine near an open flame.
- Before cleaning, maintenance and repair work, always stop the engine first and pull the spark plug cap. Exceptions: carburettor and idle adjustments.
- For any repairs only use original parts from the manufacturer.
- Do not modify, alter or change the machine as this may impact on the safe operation of the machine and may lead to accidents and injuries!

1.8 Working with the machine

- Only use this power tool when it is complete and in a safe condition.
-  As soon as the engine is running, the power tool generates toxic gases, which may be invisible and odourless. Never work with the power tool in enclosed spaces. In confined conditions such as pits or excavations, ensure adequate air changes during work.
-  Do not smoke at the work site and in the immediate vicinity of the power tool. There is an increased fire hazard!
- Work conscientiously, thoughtfully and calmly, and do not endanger third parties.
 - Pay attention to good visibility and lighting conditions.
 - Always remain within earshot of other people who can provide help in case of emergency.
 - Plan for timely work breaks.
 - Pay attention to possible hazards and take appropriate precautions. Be aware that wearing ear defenders reduces the ability to perceive noise. This includes sounds alerting to danger such as signals, shouts, etc. that can go unnoticed.
 - Exercise caution when the ground is wet or covered in ice and snow, on overhangs, or uneven terrain. There is an increased risk of slipping!
 - Pay attention to the risk of stumbling and obstacles, such as tree roots and stumps, edges, etc. Pay particular attention to safety when working on slopes.
 - Before commencing work, check the working area for stones, broken glass, nails, wire or other solid objects and remove such debris to prevent them being picked up and thrown out by the cutters.
 - Always hold this power tool firmly in both hands, and ensure your safe and solid foothold.
 - Always hold the cutters below hip level. Never lift a rotating cutter off the ground.
 - Keep all parts of the body away from rotating cutters.
 - Use a correct operating mode (see Chapter 8.3 "Correct brushcutter operation").
 - Use the power tool at lowest possible noise and exhaust levels. Only open the throttle when working, do not let the engine run unnecessarily. Please note that noise also impacts on the environment. Observe the quiet times that can vary from place to place.
 - Never use blunt cutters and avoid uncontrolled contact of the cutter with debris. Otherwise there will be an increased risk of the equipment kicking, which could throw the entire machine around. As a result, the operator could be subjected to involuntary movements, which could lead to serious injury or death.
- Stop the engine if you notice a difference in the operating characteristics of the brushcutter.
- Due to the centrifugal clutch, the cutters will run on for a short time, even if you release the throttle. Ensure the cutter has come to a full stop before storing the machine.
- Always stop the engine before any contact with the cutter – even when clearing a blockage or if cutters have become jammed – wait until the cutter has stopped and remove the spark plug cap.
- Never touch the exhaust or the silencer; as long as they are still hot, there is a risk of burns!
- Never work with a defective or missing silencer. There is a hazard of hearing damage and burning!

First Aid

A first aid box should always be available on-site. Immediately replace any materials you have used:

Note:

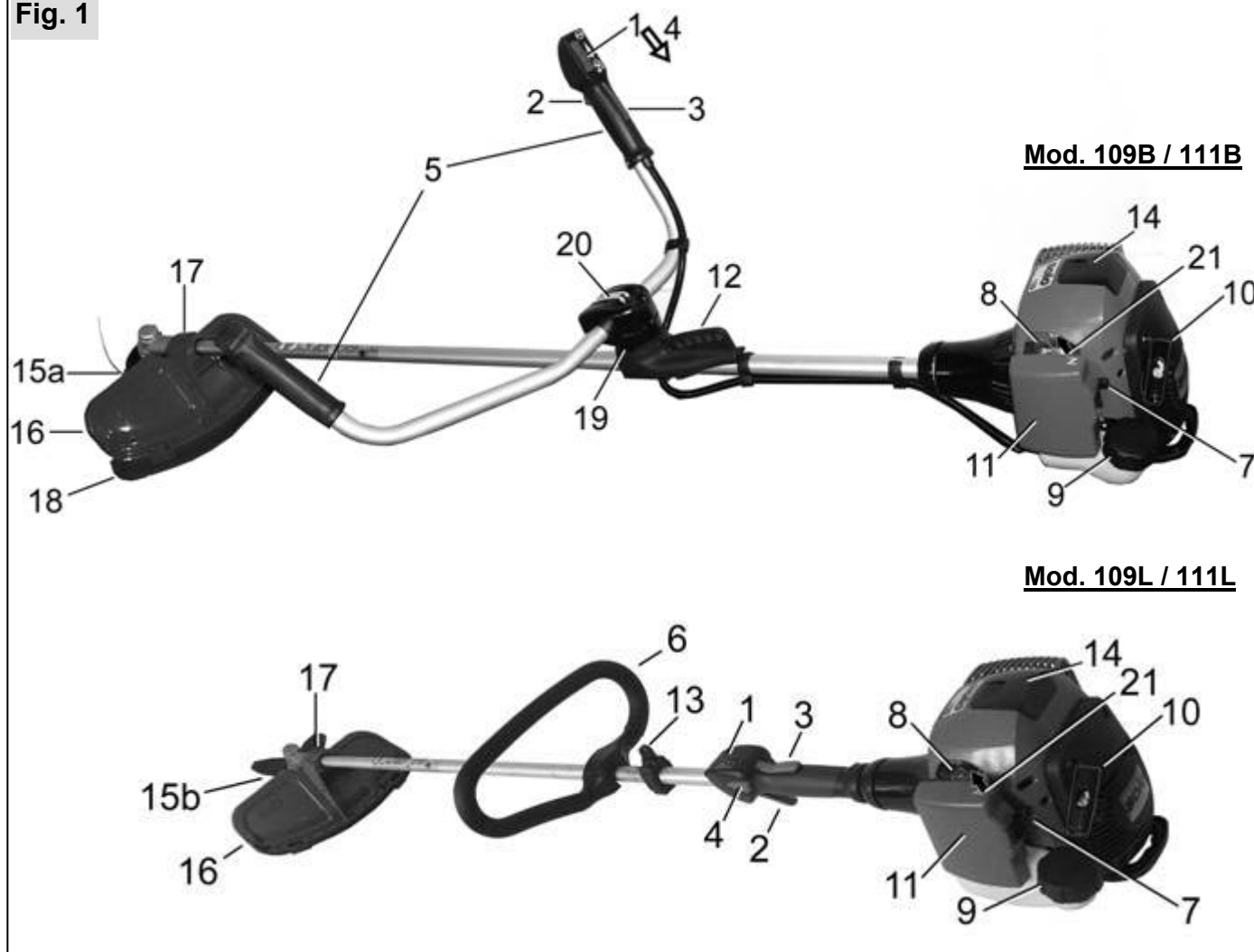
Over exposing persons with circulatory problems to vibrations can lead to damage to their nervous system or blood vessels. The following systems may occur from vibrations to fingers, hands or the wrists: Numbness, itching, pain, twinges, changes to the colour of the skin or the skin itself. Seek medical advice if you experience any of these symptoms.

2. Standard delivery

- **Brushcutter** partially assembled; the following components are supplied separately and require assembly
- **Handle** subject to model and all parts required to complete the assembly
- **Shoulder strap**
- **Shield**, protective bar (line trimmer assembled) and all parts required to assemble the shield
- **Cutting tool**: (model-specific, for metal cutting blades this also includes a corresponding transport protector)
- All **assembly parts** required to fit the grass cutter blade and the nylon head (all models)
- **Tools**: combination spanner, retaining pin and screw driver
- **Instruction manual**, the **EC declaration of conformity** on a separate piece of paper

3. Control and function elements

Fig. 1



1 Stop-switch	8 Primer	15 Cutter (a - e. g.: nylon line head) (b - e. g.: grass cutting blade)
2 Throttle lever	9 Fuel cap	16 Shield
3 Gas lever lock	10 Starter grip	17 Retainer
4 Throttle lock	11 Air filter cover	18 Protective bar
5* Bicycle handlebar	12* Strap track	19* Handle support
6* Loop handle	13* Strap attachment	20* Quick acting tension screw
7 Choke lever	14 Spark plug cap	21 Type plate

* Depending on the version

4. Accessories

Via dealers, SOLO offers an extensive range of brushcutter accessories. Their use is limited to the particular model to which it is allocated, together with its relevant protection. Orientate yourself on the following table and check with your dealer.

Accessory	Protection	Part no.
2 nylon head semi-automatic M 10 x 1.25 LI (grass, even around obstacles, light weeds)	Standard shield + protective bar, line trimming blade	69006556
Replacement line for nylon head 15m, Ø2.4 mm		6900942
Replacement line for nylon head 15m, Ø3.0 mm		6900974
Spool of nylon cord 90 m, Ø2,4 mm		0063201
2-line-cutter head "Jet-Fit" (bushes, reeds, tough grass, branches up to 20mm)	Standard shield + protective bar, line trimming blade	6900160
Replacement line for "Jet-Fit" cutter head 2.5 mm x 260 mm 50 pcs.		6900166
Replacement line for "Jet-Fit" cutter head 2.5 mm x 53 m		6900175
Grass cutter blade 4 teeth, Ø230 mm (grass, stronger weeds)	Standard shield without protective bar	6900948
Brush blade 3 teeth Ø250 mm (bushes, reeds, tough grass)	Standard shield without protective bar	6900947
Transport protector for metal cutting blades up to Ø250 mm		6073534

High performance gearbox grease		008318025
SOLO 2T engine oil 100 ml		0083103
SOLO 2T engine oil 1 l		0083104
SOLO 2T engine oil, in a metering bottle 1 l		0083105
SOLO face/ear protection pack		993901002
SOLO forest and countryside work jacket EN 340	99303000 + size (2[s] - 6[xxl])	
SOLO Outdoor Knee-breeches		9902095 + size
SOLO Outdoor dungarees		9902094 + size
SOLO leather forest boots		9930510 + size (36 - 48)
Gloves SOLO Fit		9939012 + size

5. Preparing the equipment for use



For shipping purposes, the brushcutter is partly disassembled and has to be reassembled prior to use.

Only use the brushcutter after it has been fully assembled.

Ensure that the tank is fully drained before any assembly, disassembly or modification.

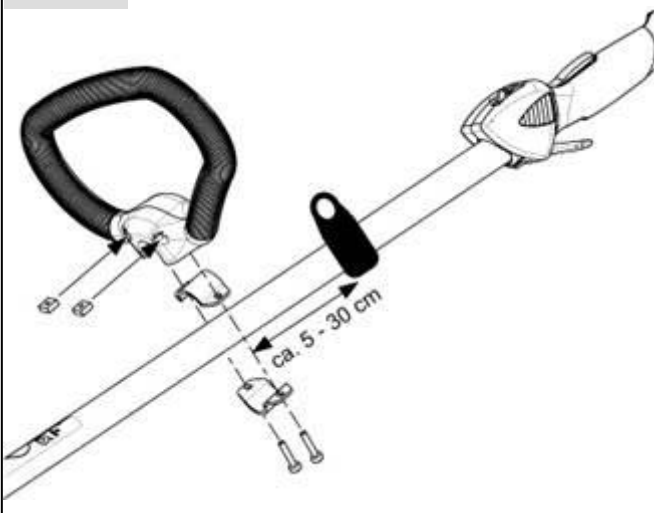
5.1 Assembly of the handle

A) "Loop" handle for models 109L and 111L (letter "L" in the model name)

Attach the "loop" handle approximately 5 cm - 30 cm from the strap attachment according to your preferred working position. The longer side of the handle serves as a safety barrier and must therefore always be on the side of the user:

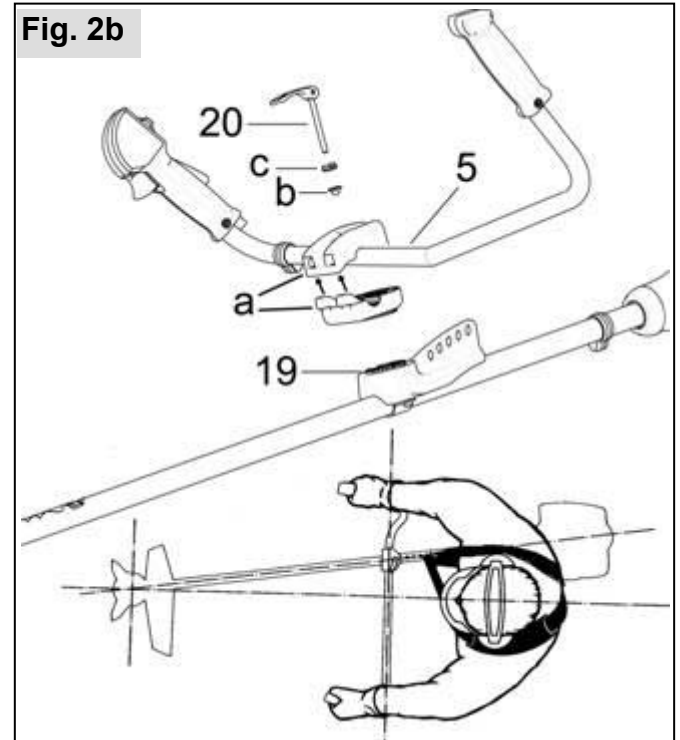
- If you carry the brushcutter on the right hand side of your body when working then the longer side of the handle must face to the left.
- If, however, you prefer to carry the brushcutter on the left hand side of your body when working (i.e. if you are left-handed) then the longer side of the handle must face to the right.

Fig. 2a



- Initially tighten the screws only lightly.
- Push the handle, in accordance with your body size, into its optimum position.
- Then tighten the screws.

B) "Bike handle" for models 109B and 111B (letter "B" in the model name)



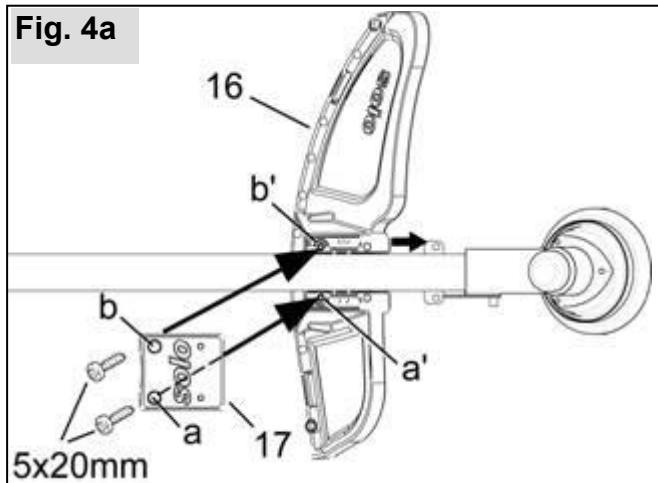
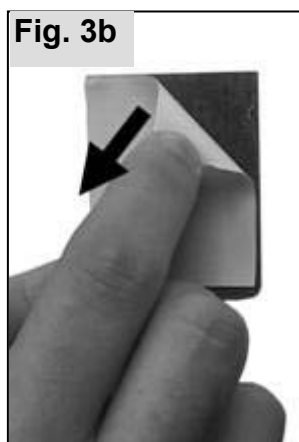
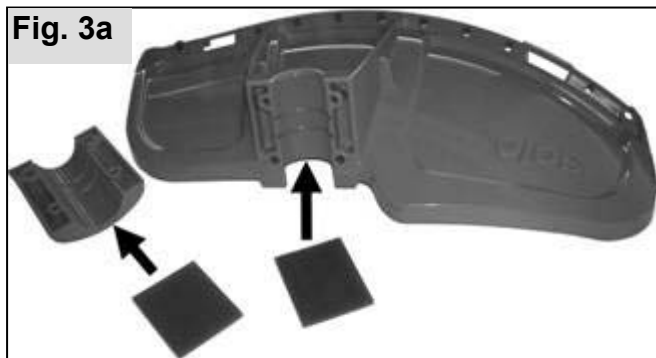
- Remove quick release screw (20) with sleeve (b) and wavy washer (c) from the handle support (19)
- Take off the two half shells (a) from the handle support.
- Position the two-handed "bike handle" (5) with the two half shells (a) on the handle support (19).
- Insert quick release screw (20) with sleeve (b) and wavy washer (c) into the handle support, but only so far that the quick release mechanism can still flip over when the handle is sitting tight. The quick release mechanism can be flipped over to the front or rear. If the handle is not quite tight yet, tighten the quick release screw another half turn and flip the mechanism to the opposite side.
- The r.h. side of handle should be fitted as near as possible to the handle support.
- In order to adjust the handle to the perfect position, flip up the quick release mechanism and loosen the screw one turn if necessary.
- Adjust the handle and screw the quick release screw (20) back in again, then flip the quick release mechanism back over.

Note: You will have achieved an optimum adjustment, if the centre of the power tool is at the centre of your body. Your elbow should be slightly angled in operating position.

Important: Always lead the brushcutter with the bicycle handlebar on the r.h. side of the body!

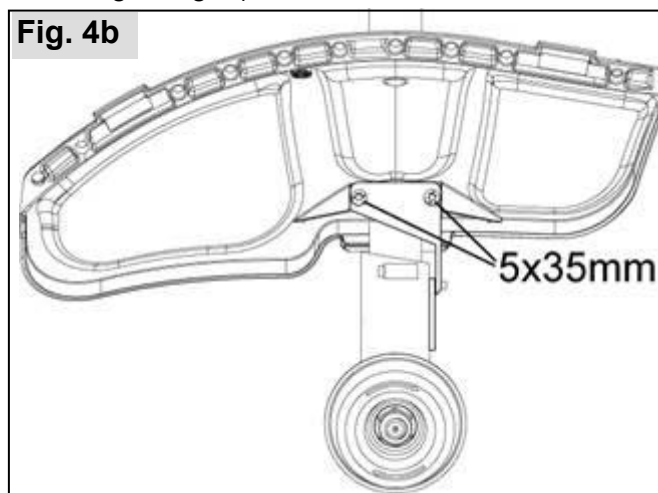
5.2 Shield installation

When assembling the guard, the damping inserts from the accessories pack must be fitted into the guard and mounting bracket in accordance with Figures 3a - 3e below.



- Position the brushcutter with the output shaft facing downward.
- Raise the shaft tube and slide the guard (16) along the underside of the shaft tube into the correct position (it should reach a stop at the angular gearbox).
- Lay down the shaft tube with the guard.
- First insert a 5 x 20 mm bolt through hole **a** to tighten the retainer (17) on the guard. Then insert the second 5 x 20 mm bolt through hole **b**, tightening finger tight only at this stage.

(Note: The retainer has a raised part on the inside near hole **a**. This allows the first bolt (which is inserted through hole **a**) to be tightened straight onto the block without any risk of the connection not being straight.)



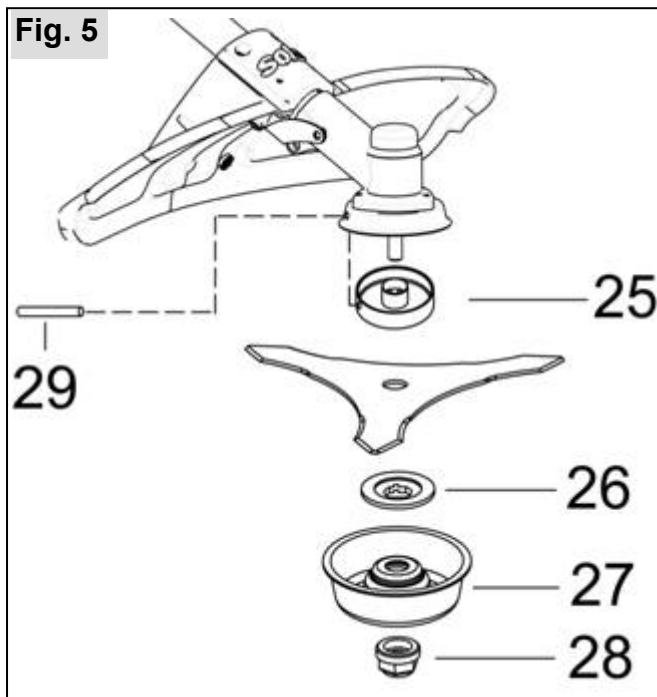
- Reposition the brushcutter with the output shaft facing upward.
- Insert the two long 5 x 35 mm bolts through the hole on the retaining bracket of the angular gearbox and tighten the guard and the retainer. The holes must line up exactly, so it may be necessary to adjust the position of the guard first.
- To finish off, fully tighten the bolt in hole **b**.

5.3 Cutter installation

Always switch off the engine, pull the spark plug cap and wear protective gloves when fitting or replacing the cutter!

Depending on your particular model, one of the following cutting tools will already be provided as standard equipment with your brushcutter. The cutting tools described below are available as genuine SOLO replacement parts which can be obtained from specialist retailers and should be installed as described below. Please refer to the overview of approved accessories in chapter 4 for more information.

A) Assembly of the 3-tooth brush cutting blade and the 4-tooth grass cutting blade




- Position the brushcutter with the output shaft facing upwards.
- Place the brush cutting blade on the pressure piece (25). In order to centre the cutting blade, the shoulder of the pressure piece must be located exactly in the bore of the cutting blade.
- Fix the pressure washer (26).
- Place the nut protector (27) and turn safety nut (28) onto the shaft.

Caution! Left hand thread - tighten counter clockwise.

Take care that all parts are centered.

- Block the shaft with the stop pin (4) and tighten nut.

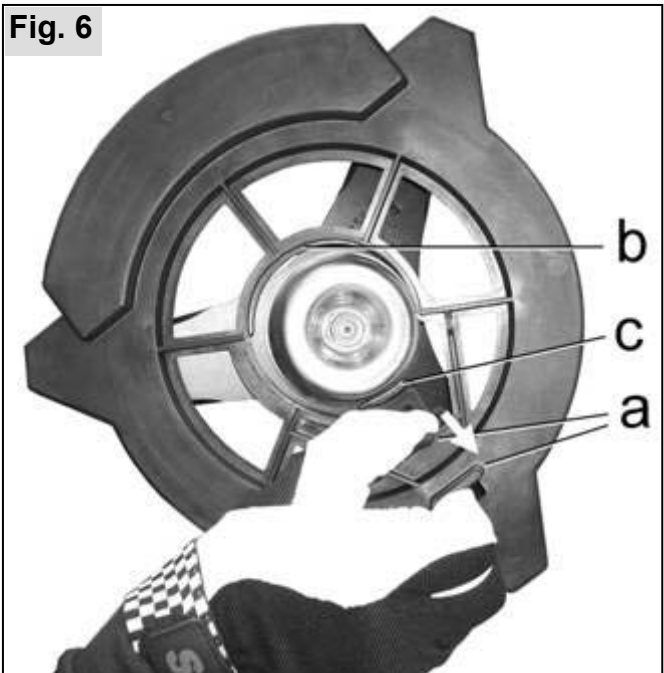
 It is imperative that the safety nut (28) is replaced, if it has become loose due to frequent removal and tightening.

Afterwards check that the cutting blade is securely seated and that it is properly centred.

Transport protection for metal cutting blades

When you first purchase an approved metal cutting blade which is not supplied together with the brushcutter (see chapter 4 "Accessories"), you will also need to purchase a corresponding transport protector.

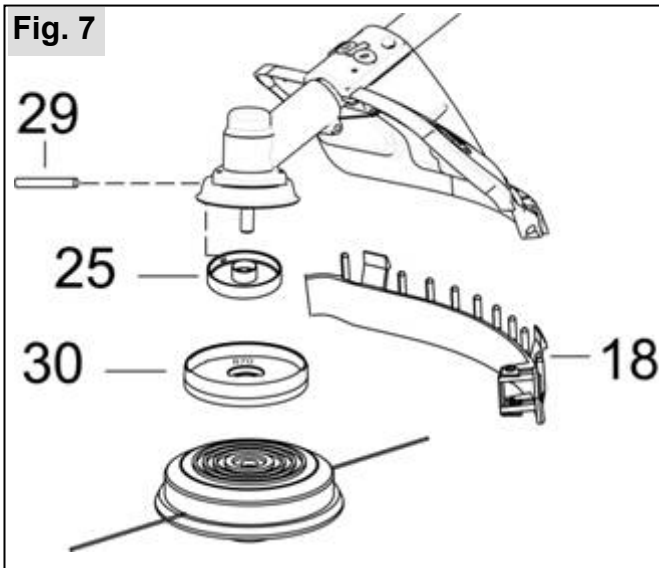
When the metal cutting blades are attached (4-tooth grass cutting blade or 3-tooth brush cutting blade, provided either as standard equipment with the different models or purchased as accessories), the transport protector must always be attached to cover the blades when the device is being stored or transported, or during work breaks during which the engine is switched off.



- Position the transport protector with the corresponding recess at one of the tips of the metal cutting blade.
- Press the two tabs (a) on the transport protector together to increase the internal diameter of the transport protector.
- Lay the transport protector right over the cutting tool. Position the inner shoulder (b) between the metal cutting blade and the running disc.
- Open the two tabs again, and in doing so also position the inner shoulder between the metal cutting tool and the running disc at tab (c).

When restarting work, take the transport protector back off by pressing the two tabs (a) together before starting the engine.

B) Assembly of the nylon line head



When fitting a nylon line head, you will not need the following components shown in Fig. 5:

Retaining nut (28) (caution: left-handed thread), nut protector (27), pressure washer (26) and metal cutting blade.

- Fit the anti-winding protection (30) (supplied with the line head) after the pressure piece (25). The side of the anti-winding protection labelled with the number "870" faces the gearbox, so the edge of the anti-winding protection overlaps the edge of the bevel gearbox.
- Block the shaft with the pin (29).
- Screw on the line head by hand. Caution: left-handed thread.
- Fit the protective bar (18) with assembled line trimmer from underneath onto the guard. Bend the protective bar slightly in the process.

⚠ Important: When using the line head, never start the brushcutter without the protective bar and the line trimmer assembled.

If the length of the line has been adjusted (see chapter 8.4, "Adjusting the cutting line"), the line trimmer will automatically cut the ends of the line to the correct length during operation.

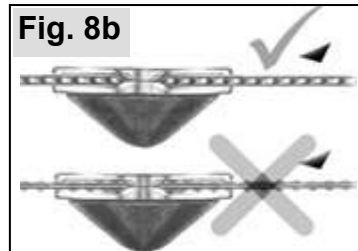
When using metal cutting blades, always work without the protective bar fitted.

C) Assembly of the "Jet-Fit" cutting head

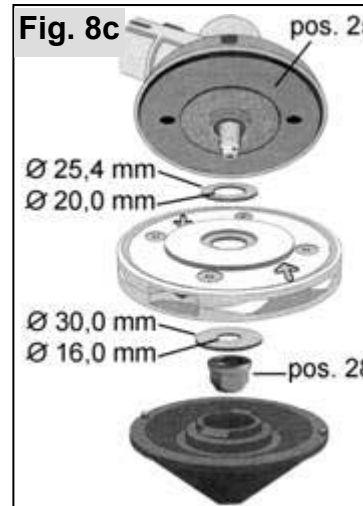


Insert the cutting line into the main body of the cutting head in accordance with the arrows on the main body. Insert enough line so that approx. 20 mm of the cutting line protrudes from the opening on the

opposite side.

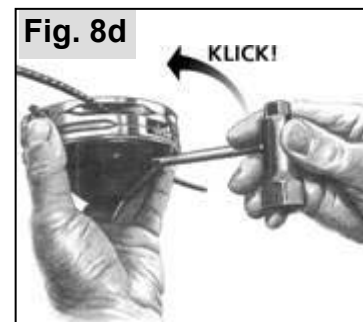


Make sure that the cutting teeth are correctly aligned in the direction of rotation.



Various washers are supplied with the cutting head. For installation on this type of brushcutter, use exactly the washer dimensions shown in the illustration (outer diameter, inner diameter). The lower washer with an inner diameter of 16 mm must be positioned around the splines on the shaft.

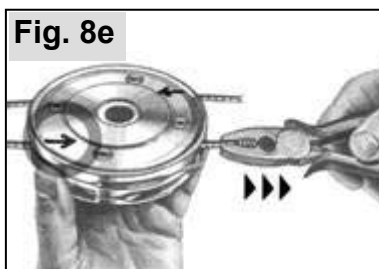
Block the shaft with the pin (29) and tighten the nut (28). Check that the cutting head is securely seated and properly centred.



Fit the cover of the cutting head in place, turn it in the direction of the arrow and tighten it with the combination wrench as shown in the illustration until it engages.

When using the "Jet-Fit-Flexiblade" cutting head, always use the standard guard and the assembled protective bar.

Cutting lines must not touch the guard and the line trimmer during rotation. If necessary, insert the cutting lines slightly further into the main body of the cutting head. The line trimmer which is assembled in the protective bar is not suitable for cutting lines. → The length of the cutting lines needs to be manually adjusted to the correct length.



To replace a cutting line, pull the protruding end back out from the main body in the direction of the arrow (use universal pliers if necessary).

5.4 Shoulder strap adjustment

Before commencing work, adjust the shoulder strap and handle according to the operator's body size.

Balance the brushcutter and attached cutting blade so that the cutting tool hovers just above the ground when your hands are off the attached brushcutter.

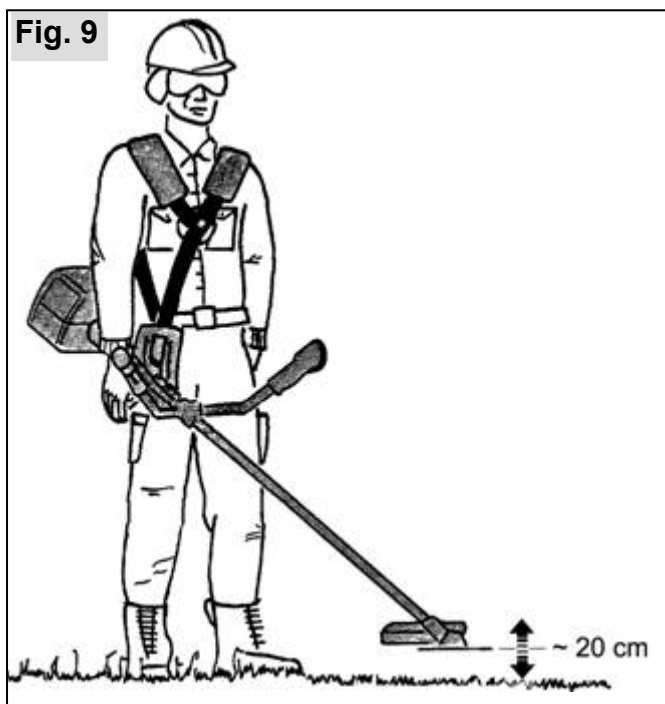
A) Models with a "loop" handle (109L and 111L)

Wear the **single shoulder strap** over the opposite shoulder to the side on which you are carrying the brushcutter. Once the length of the strap has been correctly adjusted the strap hook should be over your hip. Hook the strap hook into the strap attachment on the brushcutter.

If the cutting tool hovers more than 30 cm above the ground, secure the shoulder strap retainer nearer to the engine.

If the cutter lies on the ground, secure the shoulder strap retainer nearer the handle.

B) Models with a "bike" handle (109B and 111B) – double shoulder strap



(schematic diagram)


If the cutting tool hovers more than 30 cm above the ground, secure the strap hook one hole nearer to the engine.

If the tool lies on the ground, select one hole further from the engine.

6. Fuelling



6.1 Fuel information

 A high performance two-stroke engine operated with a petrol:oil mixture (petrol + oil = fuel mixture) or with a special fuel mixture for two-stroke engines available from specialists powers this machine.

We recommend the proprietary "Aspen 2-takt" special fuel mixture. Please observe the special fuel manufacturer's instructions.

Information on individual mixing of the fuel mixture

Normal or super unleaded petrol can be used for individual mixing purposes (**minimum octane number 92 RON**).

When using a particularly high quality proprietary 2-stroke engine oil such as the "SOLO Profi 2T-Motoröl" which we supply, we recommend an oil:petrol mixing ratio of **1:50 (2%)**.

When using **other brands of 2-stroke oil** we recommend a mixing ratio of 1:25 (4%).


Only use **proprietary 2-stroke engine oil!**

Never store fuel mixture longer than 3 - 4 weeks.

Fuel mixture table


Petrol in litres	Oil in litres	
	SOLO 2T engine oil 2% (50 : 1)	Other two-stroke oils 4% (25 : 1)
1	0.020	0.040
5	0.100	0.200
10	0.200	0.400

Unsuitable petrol or deviations in the mixing ratio may lead to serious engine damage!

 Avoid direct skin contact with petrol and avoid inhaling petrol fumes - health hazard!

6.2 Fuelling

While fuelling always follow all safety instructions and take all safety precautions.

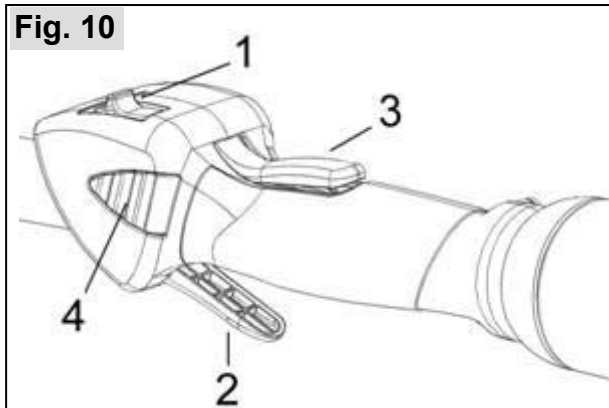
 Handle fuel only with the engine turned off. Carefully clean the area around the filler inlet. Place the machine with the fuel inlet pointing upwards. Unscrew the tank lid and fill the fuel mixture up to the lower edge of the filler neck. Use a funnel with filter to prevent tank contamination. After filling the tank replace the tank lid and tighten firmly.

7. Starting / Stopping the engine



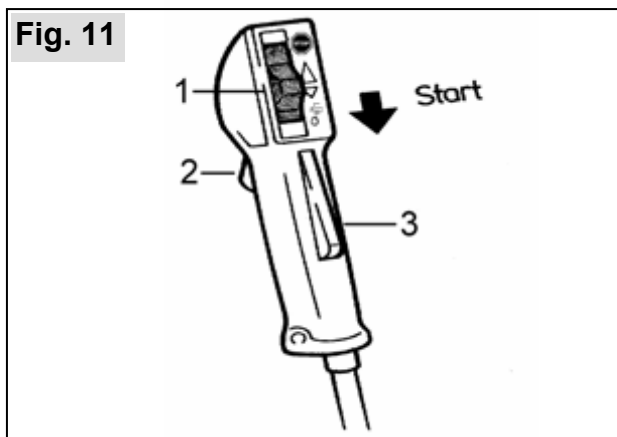
7.1 Half throttle start position

A) Models with a "loop" handle (109L and 111L)



- Slide the stop switch (1) into the operating position.
- Grip the handle; the **safety locking key** (3) is activated via the grip area, which also enables **throttle lever** (2) to be regulated.
- Press **throttle lever** fully down.
- Press the half throttle lock (4), and let the throttle lever return, whilst holding the half throttle lock in.

B) Models with a "bike" handle (109B and 111B)




- Grip the handle; the **safety locking key** (3) is activated via the grip area, which also enables **throttle lever** (2) to be regulated.
- Press **throttle lever** fully down.
- Whilst holding the throttle lever down, move **stop switch** (1) towards "Start" (🏍️), and release the throttle lever.

The part throttle stop is cancelled by brief operation of the throttle control. The stop switch on the bike handle then jumps to the central position → **operating position**.

7.2 Choke and primer



Adjust choke as follows:

- With a cold engine, position **choke lever** (7) up towards "Close" .
- With a warm engine, position **choke lever** (7) down.

When first starting or if the fuel tank has been completely drained and has been refilled, press **primer** (8) several times (at least 5x) until the fuel is visible in the plastic bulb.

7.3 Starting

Observe the safety instructions when starting.



Fig. 13

(schematic diagram)

Lay the brushcutter level and without obstructions on the ground.

During starting, never stand or kneel on the shaft tube, otherwise the shaft or the tube might be damaged.

Take up a safe position, securely hold the machine and ensure that the cutter does not touch any objects or the ground.

When the engine is cold:

With the **choke lever** up (N) start the engine by pulling the starter handle up in a straight line several times until the engine is briefly audible (ignition).

Then immediately move the **choke lever** down. Continue to start until the engine runs evenly.

When the engine is warm:

With the **choke lever** down start the engine by pulling the starter handle up in a straight line several times until the engine runs evenly.

If the engine is running in part throttle operation: briefly pull the throttle back to release the half throttle detent. Release the throttle lever again to allow the engine to run at idle speed. Now you can commence working.

The following instructions are aimed at increasing the service life of the starter rope and of the starter mechanism:

- Always pull the rope out in a straight line.
- Do not let the rope drag across the edge of the rope eyelet.
- Do not pull rope all the way out - risk of the rope breaking.
- Always manually guide the rope back into its start position with your hand on the starter grip - do not let it retract on its own.

A specialist can replace a damaged starter rope.

Note: Under good conditions, the engine will already start under idling throttle if it is at operating temperature. (If a part throttle stop is set it will be cancelled by operation of the throttle control even if the engine is at standstill.)

Starting with the **stop switch** in **run-position**

If the engine will not start under idling throttle, set a part throttle stop in the way described above.

7.4 Turning off the engine:

Release the throttle and push the stop switch to "STOP".

Important: Due to the centrifugal clutch, the cutter will run on for a short time, even if you release the throttle. Ensure the cutter has come to a full standstill before storing the machine.

7.5 Engine will not start:

If the engine fails to start after several attempts, check whether all adjustments described above have been correctly carried out, particularly that the stop switch is **not** in the "STOP" position. Try starting once again. The combustion chamber will be flooded, if the engine still fails to start.

In that case we recommend you proceed as follows:



Stop switch on "STOP"

- Remove the spark plug cover.
- Pull the spark plug cap off the spark plug.
- Remove the spark plug and dry fuel mixture from the electrodes.
- Move the throttle lever up to full throttle. Pull the starter handle several times (with removed spark plug) to clear the combustion chamber.
- Move the throttle lever down to idling position, refit the spark plug, the plug cap and the plug cover.
- Then:
 - Position choke lever down ("warm start")
 - Slide stop switch into operating position
 - Lock the throttle lever at half throttle
 - Turn on engine.

8. Using your brushcutter



8.1 Scope of Application

Only use brushcutters equipped with a nylon head (subject to model) for cutting grass – particularly suitable around obstacles - and for trimming light weeds and wild growth near ground level. The nylon head is particularly suitable for a soft cut, e.g. for clean trimming around trees and posts.

Use brushcutters equipped with the grass cutter blade (subject to model) only for cutting grass away from obstacles and for cutting stronger weeds and wild growth near ground level.

Only use brushcutters fitted with the 3-tooth brush cutting blade (subject to model) for mowing grass, light brush, reeds and uncultivated growth at ground level.

Never use the brushcutter for any other purpose.

8.2 Initial use/ start-up behaviour

When switching on the engine for the first five times prior to commencing work, first operate for a short time in the mid-speed range without any load until the engine has warmed up a little.

8.3 Correct brushcutter operation

Observe the relevant safety instructions when using the brushcutter.

Approach the working area with the brushcutter set to idle, and then switch to full throttle. Never leave the engine running at high speed without applying a load.

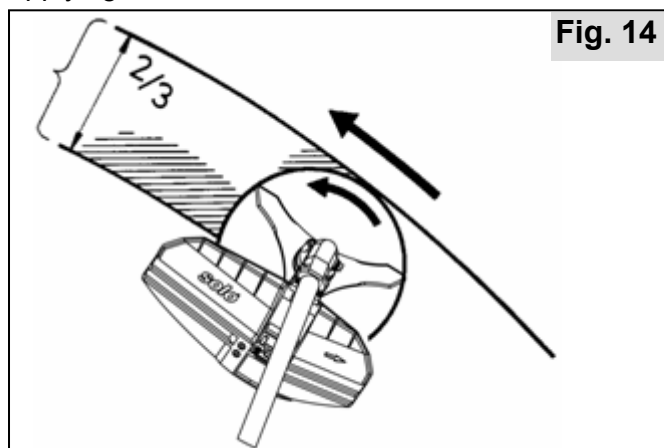


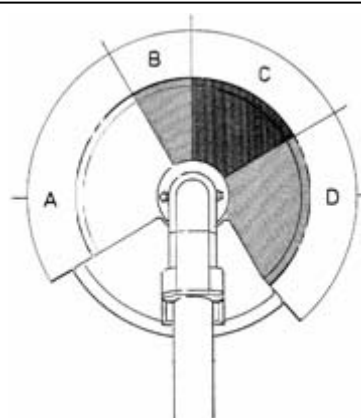
Fig. 14

(Diagram: **3-tooth brush cutting blade**)

Dip the tool from the r.h. side 2/3 into the material to be trimmed. Then work the brushcutter like a scythe, i.e. by moving forward step by step, whilst cutting from right to left.

Operate the brushcutter at full throttle to obtain an optimum cutting result. Never operate with the clutch in slipping range. Consequential damage through excess loads or overheating is excluded from our warranty.

Fig. 15



Due to the rotational direction of the cutting tool, using the l.h. side (section A) of the cutting tool (from the user's perspective) provides particularly low recoil levels, especially when cutting tough growth (such as medium-sized weeds and scrub). It is therefore best to approach the growth from the right, so the l.h. side of the cutting tool comes into contact with the growth first. Never "jab" the front of the cutting tool "into the growth".

Immediately stop the engine in case of noticeable vibrations or when material has gathered around the cutting tool or contact shield. Slow down the cutting tool by pressing it onto the ground, until it has come to a complete standstill. Pull the spark plug cap from the plug, and clean the tool seat of all grass, roots etc. Check the entire brushcutter for perfect condition.

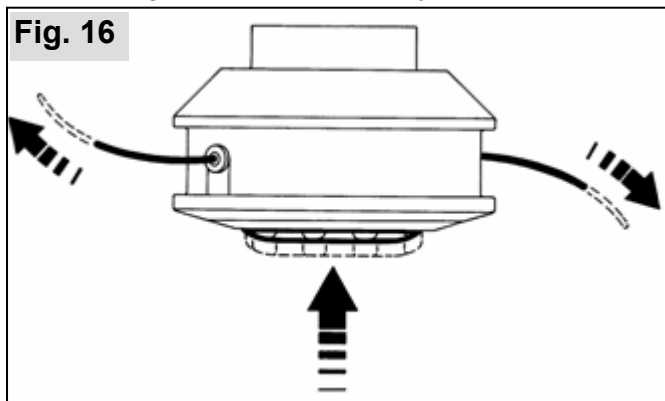
8.4 Note on using the nylon line head (available as accessory)

When using the nylon head, always ensure that you operate only with the correct length of line. When the contact shield is fitted, the line will always be trimmed to the permissible length automatically (a line trimming blade is fitted into the shield). There is a high risk of injury, and the engine is subjected to excessive loads leading to a risk of damage, if nylon lines are left too long.

⚠ Important: When using the line head, never start the brushcutter without the protective bar and the line trimmer assembled.

Adjusting the cutting line

When using a semi-automatic nylon head:



(schematic diagram)

Whilst the brushcutter is running without load, but with rotating nylon head, lightly push the nylon head several times onto ground with growth cover. The cutting line will be dispensed in stages. With each action, approx. 30 mm line will be dispensed. The line trimming blade will correct any excess length.

When the cutting line is fully spent, you can replace it with line available

Ø 2.4 mm under part no. 6900942

or

Ø 3.0 mm part no. 6900974 (accessory).

9. Operating and maintenance instructions

9.1 General operating and maintenance instructions

The maintenance and the repair of modern machines as well as their safety-relevant assemblies require qualified specialised training and a workshop equipped with special tools and test equipment. Consequently the manufacturer recommends that all tasks not described in these operating instructions be carried out by a specialised workshop. That specialist has the required training, experience, and equipment at his disposal, to provide you with the most cost-effective solution for such work. He will provide additional help in word and deed.

After a running-in time of app. 5 hours, all accessible screws and nuts (except the carburettor adjusting screws) must be checked for tightness and they must be retightened, if required.

Check the cutter regularly and whenever you notice any irregularities, or when the cutter/contact shield becomes blocked. For this, switch off the engine and wait until the cutter has come to a complete standstill. Pull the spark plug cap, and remove grass, debris, etc. from the cutter support. Immediately replace blunt or damaged tools, even if they display only small cracks – do a "ping" test.

It is best to store the equipment in a dry, safe location with a full fuel tank. There should be no open flame or similar nearby. When not using the equipment for longer periods, (longer than four weeks), see chapter "9.9 Shutdown and storage".

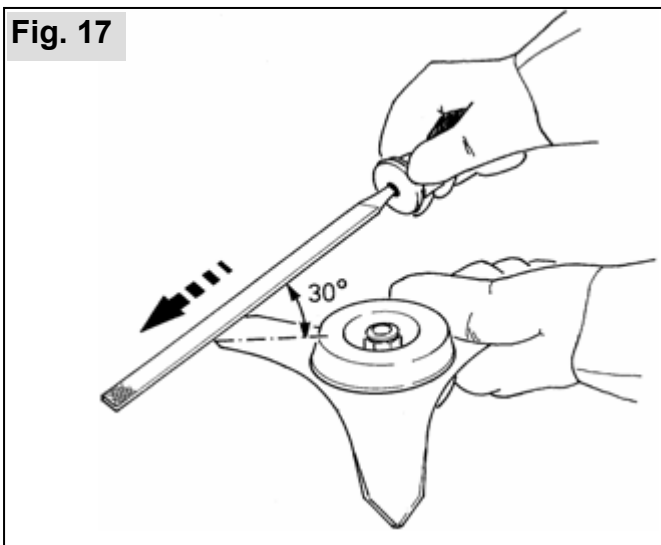
9.2 Information about the silencer

Your engine appliance has reduced exhaust emissions which are considerably lower than the statutory limits. The silencer creates a great deal of heat during operation as a result. Do not touch the silencer whilst it is still hot. Discolouration of the outer silencer housing is quite normal.

9.3 Sharpening instructions – metal cutting blades (subject to model)



Fig. 17



(Diagram: **3-tooth brush cutting blade**)

When the blades become slightly blunt, sharpen the edges of the cutting tips with a flat file at a 30° angle.

For the **3-tooth brush cutting blade**, file the edges from both sides; for the **4-tooth grass cutting blade**, file only from one side.

All cutting edges need to be filed back equally, if the wear and tear is substantial, or if there are broken-off cutting edges. It is necessary to check for imbalance and if necessary, to make corrections by additional filing. The sharpening angle is 30°.

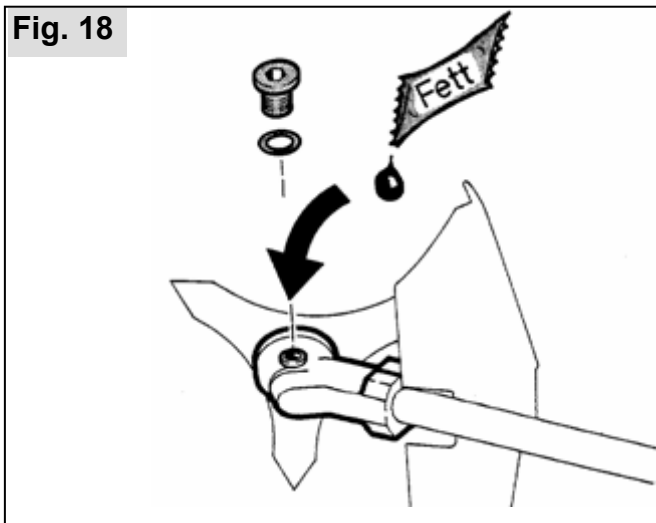
For the 3-tooth brush cutting blade, your dealer offers a sharpening jig (part no.: 0080548) to help with sharpening.

9.4 Gearbox lubrication



To lubricate the bevel gear drive, use SOLO "Special gearbox grease" (part no. 008318025). Check the grease level weekly and top up, if required (approx. every 20 - 50 hours).

Fig. 18



Remove the filler plug from the side of the gearbox. If no grease is visible inside, top up with grease (top-up quantity approx. 5 – 10 g). Replace and tighten the filler plug.

Please note: Do not overfill with grease, as that may lead to the gearbox overheating. Never fill the gearbox casing to the top with grease.

Tip: If required, top up with a maximum of 5g grease. It is preferable to check more frequently (e.g. before you start working) whether grease is still visible.

Your SOLO dealer workshop is happy to help you in case of doubt.

9.5 Carburettor adjustment



The carburettor is adjusted at the factory for optimum performance. Subject to the place of use (mountains, low-lying areas), the average idling speed given in the specification can be adjusted as follows, via the idling end-stop screw "T" (the use of a rev counter is recommended):

Fig. 19



- If the idling speed is too high, turn the idling end-stop screw "T" anti-clockwise.
- If the idling speed is too low (engine stops) turn the idling end-stop screw "T" clockwise until the engine runs smoothly.



With the throttle set to idle, the cutting tool must not, under any circumstances, rotate!

If the idling speed cannot be set correctly with the idling end-stop screw "T", request an authorised service centre to tune the carburettor.

The adjusting screws for the idling mixture "L" and the full-load mixture "H" must only be adjusted by an authorised workshop.

The following instructions are for authorised service shops

Use the D-CUT carburettor key to adjust the idle mixture screw "L" and the full load mixture screw "H".

Ask the specialist workshop that is part of our customer service about standard settings, or visit our internet portal for dealers at www.part-and-more.org.

Clean the air filter before adjusting the low speed screw!

Let the engine run warm before adjusting the engine speed.

The carburettor is tuned for optimum engine performance. Use a rev counter to tune the carburettor correctly!

Do not adjust the engine to a higher speed.

Excessive engine speed can lead to major engine damage!

9.6 Information about the spark plug



Check the spark plug regularly after 50 hours of operation.

Fig. 20



Removing the spark plug:

- Press the top tab of the spark plug cover (16) down (a), push back (b) and remove.
- Remove the spark plug cap below this.
- Remove spark plug using the combination spanner and dry thoroughly.

When the spark plug has been removed or the ignition cable has been pulled out of the plug cap, the engine must not be moved. There is a risk of fire through sparks.

Checking the spark plug:

- Clean spark plug with a dry cloth and check electrodes. There must not be any dirt between the electrodes. Brush dirt out with a thin paintbrush if necessary.
- If the electrodes have been heavily worn away, replace the spark plug immediately – otherwise after 100 hours run.
- The correct electrode gap is 0.5 mm. If the electrodes are bent and the electrode gap is incorrect, replace the spark plug.
- Before starting work, check ignition cable for perfect connection and insulation.

The permissible spark plug (interference-free, energy value 240) is available under the following description:

BOSCH USR 4 AC

Fitting the spark plug:

- Refit the spark plug and tighten using the combination spanner (recommended torque if using a torque spanner → 10 Nm).
- Always push the spark plug cap firmly onto the spark plug.
- Position spark plug cover (16) on casing and push on until it clicks back into place.

9.7 Air Filter Maintenance



Contaminated air filters cause a reduction in engine performance and increase fuel consumption with more pollutants in the exhaust gas. Engines are less likely to start readily with a contaminated air filter.

As a basic principle therefore, the air filter should be cleaned as follows before starting work, and intermittently in very dusty conditions:

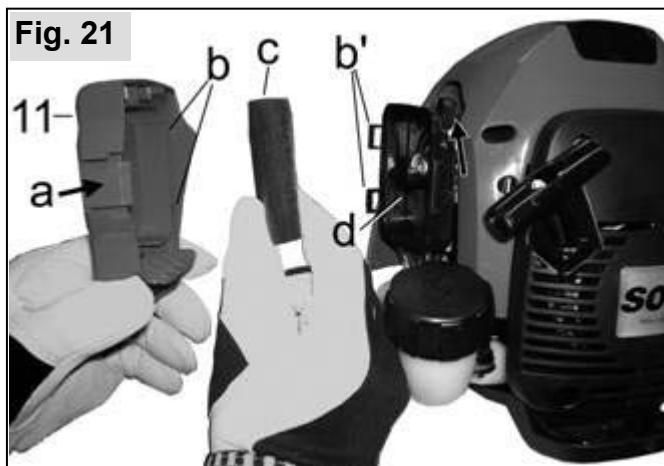



Fig. 21

Before opening the air filter, close the choke  to prevent dirt entering the carburettor.

- Push tab (a) in, only slightly open air filter lid (11) and remove by rotating gently back and forth
- Remove foam filter (c) from the lid and clean the area around the filter.
- Thoroughly clean air filter casing (d) and air filter cover (11) on the inside, using a paintbrush or by carefully blowing on them.
- Clean filter insert (c) by shaking it out or carefully blowing on it.

If the filter insert is damaged or so contaminated that it is impossible to clean, replace it with the original spare part (part no. 20 48 406).

- Insert the new or cleaned foam filter into the air filter lid.
- Position the air filter cover with both tabs (b) [inside, opposite tab (a)] in the corresponding two pockets (b') of the filter casing.
- Press air filter cover against the filter casing until tab (a) clicks audibly into place.

9.8 Replacing the fuel filter



We recommend having the fuel filter (34) changed annually by a specialised service centre.



Fig. 22

(schematic diagram)

A trained mechanic can carefully remove the fuel filter via a wire loop through the fuel tank filler. Ensure that the thicker part of the fuel hose on the tank wall is not drawn into the fuel tank.

9.9 Shutdown and storage



Clean the power tool after use.

- Never use aggressive cleaning solutions or those containing solvents to clean any part of the engine. Never hose down the engine. For best results, simply wipe down the entire engine with a dry or slightly damp cloth.
- Clean leftover cuttings off the blades using a small brush.
- Ingrained plant remains on the blades can be removed with the "SOLO Universal Cleaner" (part no.: 00 83 116). Leave it to work for a short time, then residues become soft and partially dissolve, and can be wiped off with a cloth.
- To prevent corrosion, we recommend treating metal cutting tools with the "SOLO Maintenance and Care Oil" (part no.: 00 83 163).

Store the device in a dry, safe location inside a building (garage, basement, ...). There must not be any open fires or similar nearby. Ensure that the device cannot be used by unauthorised persons, especially children.

If not in use for more than four weeks, drain the fuel tank in a well ventilated location before storing. Start the engine with an empty fuel tank and drain the carburettor until the engine stops. Oil residues from the fuel mixture could otherwise clog the carburettor jets and make it difficult to start the device later.

9.10 Scheduled maintenance



The following information is based on standard operating conditions. For special conditions, such as prolonged daily use, the recommended maintenance intervals should be reduced accordingly.

Implement all maintenance jobs regularly. If required, authorise a specialist service centre to maintain the machine for you. The owner of the machine is responsible for:

- Any damage caused by a lack of maintenance, incorrect or late maintenance and repairs
- Consequential losses - including corrosion - from incorrect storage

after the first 5 hours
before starting work
weekly
after every 50 hours
after every 100 hours
as required
before the start of the mowing season, or once per year

		after the first 5 hours	before starting work	weekly	after every 50 hours	after every 100 hours	as required	before the start of the mowing season, or once per year
Carburettor	Check idling speed		X					
	Adjust idling speed						X	
Air filter	Clean		X					
	Replace						X	
Spark plug	Check electrode gap and replace spark plug if required				X			X
	Replace					X	X	
Gearbox lubricant	Check			X				X
	Top up				X		X	X
Metal cutting blades	Check		X					
	Sharpen						X	
	Replace						X	
All accessible screws (except for adjusting screws)	Retighten	X					X	X
Controls (stop switch, throttle lever, half throttle detent, starter)	Check function		X					
Silencer	Visual inspection		X					
Complete machine	Visual inspection		X					
	Clean			X			X	X

Furthermore, as part of the annual service at an authorised dealer, request the following services:

- Complete check of the entire machine
- Professional cleaning of the engine (fuel tank, cylinder head fins, ...)
- Check and, if necessary, replace wearing parts, particularly the annual fuel filter change
- Optimum setting of the carburettor

10. Specification

Brushcutter			109L	109B	111L	111B
Engine type			SOLO single cylinder two-stroke engine			
Engine capacity	cm ³		28.9		32.3	
Bore / stroke	mm		35 / 30		37 / 30	
Engine power	kW at rpm		0.9 / 8 000		1.1 / 8 000	
Max. permissible speed no load with cutter						
Nylon head	rpm		9 000 ± 200		9 500 ± 200	
Grass cutter blade	rpm		10 000 ± 200		10 400 ± 200	
Medium idling speed	rpm		3 000 ± 200			
Fuel tank capacity	l		0,5			
Fuel consumption at max. power (ISO 7293)	kg/h		360		410	
Specific consumption at max. power (ISO 7293)	g/kWh		400		375	
Clutch engagement speed	rpm		4 700			
Fuel mix ratio:						
with SOLO 2T engine oil			1:50 (2%)			
with other two-stroke oils			1:25 (4%)			
Carburettor			All-position diaphragm carburettor with primer and integrated fuel pump			
Air filter			Foam filter			
Ignition			Electronically controlled magneto ignition, maintenance free			
Gear reduction →			1.23 : 1			
Max. speed of the cutter	rpm		8 100 ± 200		8 400 ± 200	
Shaft tube - connection	Ø mm		24			
Drive shaft	Ø mm		7			
Star serration			7 teeth			
Dimensions	Height	mm	30	52	30	52
	Width	mm	38	67	38	67
	Length	mm	187	187	187	187
Weight w/o shield and cutter	kg		6.3	6.6	6.3	6.6
In determining the following values regarding the acceleration of vibrations and sound, the different operating conditions were weighted in accordance with the current standards.						
Weighted effective acceleration $a_{hv,eq}$ (DIN ISO 22867)						
Handle r.h. side / handle l.h. side						
Nylon head	m/s ²		6.9 / 6.6	4.0 / 4.0	7.5 / 6.8	3.5 / 3.3
Grass cutter blade	m/s ²		8.5 / 7.6	6.0 / 8.1	8.7 / 7.5	5.7 / 7.9
Sound pressure level L_{Peq} (EN ISO 22868)						
Nylon head	dB(A)		93	93	93	93
Grass cutter blade	dB(A)		94	94	94	94
Sound power level L_{Weq} (EN ISO 22868)						
Nylon head	dB(A)		104	104	104	104
Grass cutter blade 4 teeth	dB(A)		104	104	105	105

11. Guarantee

The manufacturer guarantees trouble-free quality and will cover the cost of replacing parts which are found to be faulty in material or workmanship within the prescribed guarantee period after the date of purchase. Please note that specific guarantee conditions may vary from country to country. If in doubt, ask your equipment vendor. He is responsible for guarantee matters.

We hope you will understand that we cannot be liable for damage resulting from the following causes:

- Non-compliance with the operating instructions.
- Neglecting essential maintenance and repair work.
- Damage caused by incorrect carburettor adjustment.
- Wear in normal use.
- Obvious overload by continuously exceeding the maximum performance limit of the product.
- Using non-authorized tools.
- Use of force, incorrect treatment, misuse and accidents.
- Damage from excessive heat due to dirt build-up around the cooling fan housing.
- Attempted adjustments and repairs by unqualified persons.
- Use of unsuitable spare parts or third party parts, if these are the cause of the defect.
- Use of unsuitable or stale fuel.
- Damage caused by using the product in the hire or rental industry.

Normal cleaning, adjustments or maintenance work fall outside the guarantee provisions.

A service centre authorised by the manufacturer must carry out all guarantee work.

12. Parts subject to wear and tear

Various parts are subject to application-specific or normal wear and must be replaced in good time, when required. The following parts are subject to normal wear and are not covered by the manufacturer's guarantee:

- Air filter
- Fuel filter
- All rubber parts which come into contact with fuel
- Clutch
- Spark plug
- Starter
- Cutting tools



For USA only:

Emissions Control Warranty Statement

The Environmental Protection Agency and Solo are pleased to explain the emission control system on your small non-road power equipment engine. In the US new small non-road engines must be designed, built, and equipped to meet the Environmental Protection Agency's standards. Solo must warrant the emission control system on your small non-road engine for the period of time listed below provided there has been no abuse, neglect, or improper maintenance of your small non-road engine.

Your emission control system includes parts such as the carburetor, the ignition system, and the exhaust system.

Where a warrantable condition exists, Solo will repair your small non-road power equipment engine at no cost to you including diagnosis, parts, and labor.

Manufacturer's Warranty Coverage

Solo's small non-road power equipment engines are warranted for a period of two years. If any emission control related part on your engine is defective, the part will be repaired or replaced by Solo.

Contact Information for Authorized Service Center Locations, Replacement Parts, Warranty and Technical Information

Warranty repairs **must** be completed by a SOLO Authorized Service Center.

SOLO USA, Inc. 1-800-765-6462
5100 Chestnut Avenue techserv@solousa.com
Newport News, VA 23605

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